

CLAIM OR CLAIMS

WHAT IS CLAIMED IS:

1. A shoot and fruit thinner adapted to selectively prune vines in a vineyard by removing selected vegetative shoots and/or fruit from one or more vines, said shoot and fruit thinner comprising:

a draft vehicle associated with a mobile power unit, said draft vehicle adapted to be moved about said vineyard along said vines;

a frame supported by said vehicle, said frame having at least one rotary tool depending therefrom, said tool adapted to selectively thin said shoots and/or said fruit on said vine as said vehicle moves about said vineyard, said tool powered by said power unit; and,

controls associated with said power unit for selectively manipulating said tool to control the amount of thinning of said shoots and/or fruit.

2. The shoot and fruit thinner as recited in claim 1, wherein said tool is supported by an articulating arm secured to said frame.
3. The shoot and fruit thinner as recited in claim 2, wherein said tool comprises a circular disc mounting a plurality of radially spaced apart fingers.
4. The shoot and fruit thinner as recited in claim 2, wherein said tool comprises a circular brush adapted to be rotated by said power unit.
5. The shoot and fruit thinner as recited in claim 2, wherein said tool comprises an oval chain unit mounting a plurality of regularly spaced apart fingers.
6. The shoot and fruit thinner as recited in claim 1, wherein said frame comprises a platform pivotally secured to said vehicle.

7. The shoot and fruit thinner as recited in claim 2, wherein said articulating arm comprises an upper and lower arm, and wherein said tool is secured to said lower arm.

8. The shoot and fruit thinner as recited in claim 3, wherein said fingers are flexible finger pairs having a first finger adjacent a second finger.

9. The shoot and fruit thinner as recited in claim 8, wherein said first and second fingers of each finger pair are formed from an elastomeric material, rubber, plastic, or the like.

10. The shoot and fruit thinner as recited in claim 5, wherein said fingers are flexible finger pairs having a first finger adjacent a second finger.

11. The shoot and fruit thinner as recited in claim 10, wherein said first and second fingers of each finger pair are formed from an elastomeric material, rubber, plastic, or the like.

12. The shoot and fruit thinner as recited in claim 1 further comprising a guide wheel protruding forwardly from said frame, said guide wheel adapted to roll along a central wire on a trellis as said vehicle moves forwardly along said vine.

13. The shoot and fruit thinner as recited in claim 12, wherein said tool is supported by an articulating arm secured to said frame.

14. The shoot and fruit thinner as recited in claim 13, wherein said tool comprises a circular disc mounting a plurality of radially spaced apart fingers.

15. The shoot and fruit thinner as recited in claim 13, wherein said tool comprises a circular brush adapted to be rotated by said power unit.

16. The shoot and fruit thinner as recited in claim 11, wherein said tool comprises an oval chain unit mounting a plurality of regularly spaced apart fingers.

17. The shoot and fruit thinner as recited in claim 13, wherein said frame comprises a platform pivotally secured to said vehicle.

18. The shoot and fruit thinner as recited in claim 13, wherein said articulating arm comprises an upper and lower arm, and wherein said tool is secured to said lower arm.
19. The shoot and fruit thinner as recited in claim 14, wherein said fingers are flexible finger pairs having a first finger adjacent a second finger.
20. The shoot and fruit thinner as recited in claim 19, wherein said first and second fingers of each finger pair are formed from an elastomeric material, rubber, plastic, and the like.
21. The shoot and fruit thinner as recited in claim 16, wherein said fingers are flexible finger pairs having a first finger adjacent a second finger.
22. The shoot and fruit thinner as recited in claim 21, wherein said first and second fingers of each finger pair are formed from an elastomeric material, rubber, plastic, and the like.
23. The shoot and fruit thinner as recited in claim 13, wherein said mobile power unit includes a remote hydraulic motor rotating said tool, by driving a first gear in contact with an endless chain, said endless chain driving a second gear associated with said rotating tool, and a shield covering said chain to prevent inadvertent contact with said vine, shoots, and/or fruit.
24. The shoot and fruit thinner as recited in claim 23, wherein said tool comprises a circular disc having a plurality of radial flexible fingers and driven by said hydraulic motor.
25. The shoot and fruit thinner as recited in claim 23, wherein said tool comprises a circular brush driven by said hydraulic motor.
26. The shoot and fruit thinner as recited in claim 23, wherein said tool comprises an oval chain unit having a plurality of flexible fingers and driven by said hydraulic motor.
27. A harvester adapted to be moved along a vine supported by a trellis in a vineyard to harvest fruit therefrom, said harvester comprising:
 - a wheeled frame for moving a picking head along said vine;

said picking head adapted to substantially surround a portion of said vine to be harvested;

a collecting conveyor located beneath said picking head, said collecting conveyor catching falling fruit from said portion of said vine during harvesting and subsequently transporting said collected fruit rearwardly;

a cross conveyor operatively intersecting said collecting conveyor adjacent the rear of said frame, said cross conveyor accepting collected fruit from said collecting conveyor and subsequently transporting said collected fruit to the periphery of said frame;

flexible scales extending from said frame and adapted to contact said trellis, said scales providing a substantially impervious barrier to the egress of falling fruit; and,

an apron for transferring said falling fruit to said collecting conveyor; and, drive means for moving said frame along said vine.

28. The modified harvester as recited in claim 27, wherein said harvester is a half-row harvester and said picking head surrounds substantially half of said trellis.

29. The modified harvester as recited in claim 27, wherein said harvester is a full-row harvester and said picking head surrounds substantially all of said trellis.

30. The modified harvester as recited in claim 27, wherein said picking head includes at least one vibrating tool having a rotary head with a plurality of protruding spikes, said spikes adapted to contact a cordon wire and shake said vine as said harvester moves along said vine.

31. The modified harvester as recited in claim 27, wherein said picking head includes at least one striker unit having first and second rows of opposing strikers adapted to intermittently contact said vine during harvesting.

32. The trellis anchoring system as recited in claim 18 adapted for use with a modified lyre trellis and to facilitate vineyard mechanization, said system including a guide wire anchoring support comprising a U-member supported by first and second vertical members extending upwardly from a subterranean cross member.
33. The trellis anchoring system as recited in claim 32, wherein said u-member has two spaced apart parallel vertical uprights joined by a horizontal cross member.
34. The trellis anchoring system as recited in claim 33, wherein said cross member is attached to the top of said first vertical member and said second vertical member supports two horizontal cross braces extending to said horizontal cross member adjacent each of said vertical uprights.
35. The trellis anchoring system as recited in claim 34, wherein said first vertical member supports a central wire just below said horizontal cross member, a support wire is attached to each of said vertical uprights adjacent said horizontal cross member, a cordon wire is attached to each of said vertical uprights above each of said support wires, and one or more catch wires are attached to each of said vertical uprights above said cordon wire and spaced vertically from each other.
36. The trellis anchoring system as recited in claim 35, wherein each of said catch wires is attached to said vertical uprights in an adjustable manner to selectively tension said vine.
37. The trellis anchoring system as recited in claim 36 further comprising hooks or catches on said vertical uprights to releasably secure chains on the ends of said catch wires to said vertical uprights.